I claim:

1. (Currently Amended) A method of forming an optical device for insertion into the cornea of an eye, said method including the steps of:

a. providing ~~forming~~ a polymer film having first and second surfaces;

b. forming tracks ~~pores~~ in said polymer film by ~~irradiation~~ exposing said polymer film to a first source of radiation;

c. etching said tracks to form at least some ~~widening said~~ pores in said polymer film which connect said first and second surfaces; ~~and~~

d. providing a mask; and

~~d.~~e. forming ~~providing~~ surface relief in said polymer film by ~~irradiation~~ exposing, through said mask, portions of said polymer film to a second source of radiation.

2. (Currently Amended) The method of claim 1, wherein the step of forming said tracks ~~pores~~ with said first source of radiation is achieved by using a source of accelerated ~~irradiation of said polymer film with~~ ions.

3. (Currently Amended) The method of claim 1, wherein the step of forming said tracks ~~pores~~ with said first source of radiation is achieved by using a source of ~~irradiation of said polymer film with~~ x-rays.

4. (Cancelled)

5. (Previously Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Currently Amended) The method of claim 1 ~~7~~, wherein said step of forming said surface relief ~~irradiating~~ with said ~~optical lithography~~ second source of radiation ~~further~~ includes the step of producing within said polymer film a central disc and a concentric annulus of different thickness ~~a disc within said polymer film having a first thickness and a surrounding concentric annulus having a second thickness~~.

9. (Currently Amended) The method of claim 1 ~~7~~, wherein the step of forming said surface relief ~~irradiating~~ with said second ~~optical lithography~~ source of radiation ~~further~~ includes the step of producing surface ~~structural~~ relief within said polymer film designed ~~required~~ to correct for refractive error ~~errors~~ in an eye.

10. (Currently Amended) The method of claim 1 6, wherein said second source of radiation is selected from the group including optical lithography sources and ion beam sources ~~step of irradiating said polymer film further includes the step of providing an ion beam lithography source as the radiation source~~.

11. (Cancelled)

12. (Cancelled)

13. (Currently Amended) The method of claim ~~either claims~~ 8 ~~or 11~~, further including the step of reducing the transmission ~~transparency~~ of said surrounding annulus to at least certain wavelengths of light.

14. (Cancelled)

15. (Currently Amended) The method of claim 13 ~~14~~, wherein said step of reducing transmission ~~forming said opaque layer~~ is accomplished by the step of irradiating said surrounding annulus with ions from a third source of radiation to form a buried opaque ~~graphite~~ layer in said surrounding annulus.

16. (Currently Amended) The method of claim 13, wherein said step of reducing transmission ~~transpareney~~ is accomplished by the step of forming ~~a diffraction grating pattern~~ within said surrounding annulus a diffraction grating designed to reflect pre-selected wavelengths of light ~~color~~ while transmitting ~~all~~ other wavelengths.

17. (Original) The method of claim 1, further including the step removing excess of said polymer film.

18. (Cancelled)

19. (Cancelled)

20. (Cancelled)

21. (Cancelled)

22. (Cancelled)

23. (Cancelled)

24. (Cancelled)

25. (Cancelled)

26. (Cancelled)

27. (Cancelled)

28. (Cancelled)

29. (Cancelled)

30. (Cancelled)

31. (Cancelled)

32. (Cancelled).

33. (Cancelled)

34. (New) The method of claim 1, wherein said step of forming said surface relief with said second source of radiation further includes the step of etching.

35. (New) The method of claim 1, further including the step of providing a second mask, and wherein said step of forming said tracks in said polymer film includes the step of forming a first set of tracks over a first area of said polymer film by exposing said first area through said second mask.

36. (New) The method of claim 35, wherein said step of etching said tracks to form said pores includes the step of etching said first set of tracks.

37. (New) The method of claim 36, further including the step of providing a third mask, and wherein said step of forming said tracks in said polymer film includes the step of forming a second set of tracks over a second area of said polymer film by exposing said second area through said third mask.

38. (New) The method of claim 37, wherein said step of etching said tracks to form said pores includes the step of etching said second set of tracks.

39. (New) The method of claim 38, wherein said step of etching said tracks to form said pores includes the step of widening at least some of said pores to dimensions wide enough to permit the ingrowth of corneal tissue.

40. (New) The method of claim 1, wherein said step of etching said tracks to form said pores includes the step of widening at least some of said pores to dimensions wide enough to permit the ingrowth of corneal tissue.

41. (New) The method of claim 1, further including the step of reducing the transmission of at least a portion of said polymer film to at least certain wavelengths of light.

42. (New) The method of claim 41, wherein the step of reducing said transmission of said portion of said polymer film is accomplished by the step of irradiating said portion of said polymer film with ions from a third source of radiation to form a buried opaque layer in said portion of said polymer film.

43. (New) The method of claim 8, wherein the step of producing said disc and said surrounding annulus further includes the step of etching.

44. (New) A method of forming an optical device for insertion into the cornea of an eye, said method including the steps of:

a. providing a polymer film having first and second surfaces;

b. forming tracks in said polymer film by exposing said polymer film to a source of x-rays, said x-rays constituting a first source of radiation;

c. providing a mask; and

d. forming surface relief in said polymer film by exposing, through said mask, portions of said polymer film to a second source of radiation.